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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,334	03/07/2007	Francesco Santangelo	U 016325-6	9753

140 7590 07/15/2010

LADAS & PARRY LLP
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER	
SPIVACK, PHYLLIS G	
ART UNIT	PAPER NUMBER
1614	

NOTIFICATION DATE	DELIVERY MODE
07/15/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

nyuspatactions@ladas.com

Office Action Summary	Application No.	Applicant(s)	
	10/583,334	SANTANGELO, FRANCESCO	
	Examiner	Art Unit	
	Phyllis G. Spivack	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3 and 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3, 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's Amendment filed April 28, 2010 is acknowledged. Claims 3 and 10 remain under consideration.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The subject matter presently under consideration is drawn to the treatment of oxidative stress resulting from hemodialysis comprising administering cysteine, cystine or a mixture thereof.

Claims 3 and 10 were rejected on the ground of nonstatutory obviousness-type double patenting, as being unpatentable over claims 1-21 of Santangelo, F., U.S. Patent No. 6,627,659, in the last Office Action. It was asserted the claims of the patent are drawn to decreasing the effect of oxidative stress in a patient undergoing hemodialysis comprising administering N-acetylcysteine. Using the instant specification as a dictionary, N-acetylcysteine is defined as a prodrug. See page 3 of the specification, line 5. Accordingly, N-acetylcysteine undergoes chemical conversion *in vivo* to cysteine, the active metabolite.

Applicant argues it is impermissible to view the present invention through the eyes of the inventor. Applicant states nothing in the cited prior art points to acetylcysteine as being known as a prodrug for cysteine. Applicant urges the properties of N-acetylcysteine itself rather than its properties as a prodrug were the goal in the patent. Applicant points out the intravenous administration recited in the patent.

On the contrary, the Examiner believes it is permissible to use the instant specification as a dictionary. On page 3 of the specification, line 5, N-acetylcysteine is

defined as a prodrug. Additionally, Atkuri et al., Current Opinion in Pharmacology is provided, as evidence only, that N-acetylcysteine is considered to be a prodrug for cysteine. See the Abstract.

While it is clear the claims of the patent are drawn to intravenous administration, and the present claims are drawn to oral administration, such is an obvious difference. It is conventional practice for one skilled in the art of formulation chemistry to seek an additional dosage form when a particular dosage form is shown to be efficacious. Examples are diphenhydramine or chlorpromazine, *inter alia*.

The rejection of claims 3 and 10 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of Santangelo, F., U.S. Patent No. 6,627,659, is maintained.

In the last Office Action claims 3 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Locatelli et al., Nephrology, Dialysis, Transplantation, in view of Droge et al., U.S. Patent 5,607,974. It was asserted Locatelli teaches the administration of N-acetyl cysteine to treat oxidative stress resulting from hemodialysis in a patient undergoing hemodialysis. See, in particular, the second column on page 1274 under Oxidative Stress, where Locatelli teaches hemodialysis induces oxidative stress. A direct increase in blood levels of reactive oxygen species is noted during hemodialysis. The duration of hemodialysis is also a factor in determining oxidative stress in this patient population. See the Abstract where N-acetyl cysteine is disclosed to be a suitable antioxidant to treat oxidative stress. Droge teaches the oral administration of cysteine to patients receiving hemodialysis. See column 2, lines 14

and 66, as well as column 3, lines 14-19, where the cysteine dosage range is taught to be 200mg to 2 gm.

Applicant argues cysteine and N-acetylcysteine are not interchangeable and that a person skilled in the art would not have been motivated to use cysteine in place of N-acetylcysteine, by a different administration route, in view of Locatelli. Applicant further urges Droge always refers to a "cysteine source."

Applicant's arguments are not found persuasive, and the rejection of record of claims 3 and 10 under 35 U.S.C. 103(a) is maintained. For a patient undergoing hemodialysis, administration of cysteine, or a source of cysteine, such as N-acetylcysteine, is known in the prior art. Droge teaches treatment may be with any drug that can be transported into the cytoplasm of the cell and/**or** elevates plasma thiol levels and which provides cysteine **or** derivatives thereof. See column 2, lines 24-27. A reasonable interpretation of Droge's teachings is that administration of cysteine is not excluded. See MPEP 2111.

Therefore, in view of the combined teachings of Locatelli and Droge, one skilled in the nephrology art would have been motivated to administer cysteine to treat oxidative stress that results from hemodialysis because the prior art is suggestive of the instant invention.

No claim is allowed.

THIS ACTION IS MADE FINAL. Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this Final Action is set to expire THREE MONTHS from the mailing date of this Action. In the event a first reply is filed within TWO MONTHS of the mailing date of this Final Action and the Advisory Action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the Advisory Action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the Advisory Action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this Final Action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Phyllis G. Spivack whose telephone number is 571-272-0585. The Examiner can normally be reached on 10:30 AM-7 PM.

If attempts to reach the Examiner by telephone are unsuccessful after one business day, the Examiner's supervisor, Ardin Marschel, may be reached on 591-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 9, 2010

/Phyllis G. Spivack/
Primary Examiner, Art Unit 1614